

Table 1
Round 3 Data Gap Summary Table

Data Needs	Round	LWG Proposed Samples	Additional Data Needs Proposed by EPA	Notes and Status
Site Wide Data Needs				
Upstream Site Boundary	3A	8 sediment cores and 3 radioisotope cores	Contingent on results of Round 3A.	<i>Category 1: Further discussion with LWG required to determine how to incorporate Cargill and Historic MGP into RI/FS.</i>
Downstream Site Boundary	3A	12 grab samples and 7 sediment cores	Additional data collection unlikely.	Category 5: No action required at this time.
Riparian Soil	NA	None proposed	None - upland data gap.	Category 5: No action required at this time.
Multnomah Channel	3B	10 sediment samples based on bathymetric survey results	None. General scope and scale of LWG proposal is acceptable.	Category 3: General Scope and scale is acceptable. EPA will provide comments on Upriver and Multnomah Channel FSP.
Non-AOPC Subsurface Sediments	3B	10 - 12 sediment cores. Contingent on additional data evaluation	None. General scope and scale of LWG proposal is acceptable.	Category 2: LWG will submit TM in August 2007 that evaluates erosion potential at the site. This will be used to finalize the sampling approach.
Upstream - Background	3B	Approximately 20 sediment samples	General scope and scale is acceptable. Finalize sample numbers based on statistical analysis. Supplement with pulp mill site investigation data.	Category 2: Preliminary estimate is 2 - 3 samples from each of the 12 areas (24 - 36 total). EPA will provide comments on Upriver and Multnomah Channel FSP.
Upstream Surface Water	3A	Transects at RM 16 and 11	Contingent on results of Round 3A and results of fate and transport modeling effort.	Category 4: Ongoing effort. No discussion required.
Upstream Biota	NA	None proposed	Upstream biota not required at this time.	Category 5: No action required at this time.
HHRA				
Tissue chemistry	NA	None proposed	Biota tissue required to ensure adequate spatial coverage and full range of contaminant concentrations. Species list includes smallmouth bass (30 - 40 composites), black crappie (12 - 18 composites), carp (12 composites) clams (10 composites) and crayfish (9 composites).	Category 3: EPA has provided direction. Current estimate is 9 clam, 8 crayfish, 16 sculpin, 18 bass and 9 carp composite tissue samples. LWG should proceed with Biota Tissue FSP development.

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ERA				
Lamprey Ammocoete Tissue	3A	5 ammocoetes and 3 macrothemia	Contingent on results of Round 3A.	<i>Category 1: Tissue data received on June 26, 2007.</i>
Lamprey Ammocoete Toxicity	3A	Range finding and definitive toxicity testing	Definitive toxicity testing proceeding as part of Round 3A.	Category 4: Ongoing effort. No discussion required.
Pre-Breeding Sturgeon	3A	15 individual fish	Additional data collection unlikely.	Category 5: No action required at this time.
Tissue chemistry	3B	None Proposed	Biota tissue required to ensure adequate spatial coverage and full range of contaminant concentrations. Species list includes smallmouth bass (30 - 40 composites), black crappie (12 - 18 composites), carp (12 composites), clams (10 composites), crayfish (9 composites) and sculpin (17 composites).	Category 3: EPA has provided direction. Current estimate is 9 clam, 8 crayfish, 16 sculpin, 18 bass and 9 carp composite tissue samples. LWG should proceed with Biota Tissue FSP development.
Sediment Bioassays	3B	12 Bioassays in upper end of study area	44 bioassays recommended to support ERA.	Category 3: EPA has provided direction. EPA will provide comments on Sediment and Benthic Toxicity FSP.
TPH/PAH Evaluation for Bioavailability	3B	TBD	TBD	Category 2: LWG will prepare TM and FSP that outlines specific approach.
Bird Eggs	NA	TBD	TBD based on review of USGS osprey egg data.	<i>Category 1: USGS Data expected in October 2007. Potential for 10 - 12 egg samples to validate dietary uptake models.</i>
Fate and Transport Analysis				
Sediment Trap	3A	12 Sediment Trap locations	Additional data collection unlikely.	Category 5: No action required at this time.
Stormwater Loading	3A	30 Stormwater sample locations	Additional data collection unlikely as part of Portland Harbor RI/FS. Additional sampling may be conducted as part of source control efforts.	Category 4: Ongoing effort. No discussion required.
Surface Water Loading	3A	23 Surface Water Samples	TBD based on results of hybrid fate and transport model.	Category 4: Ongoing effort. No discussion required.
TZW Loading	3B	None proposed	Additional data collection unlikely.	Category 5: No action required at this time.

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Food Web Model				
Surface Water	3A	23 Surface Water Samples	Additional data collection unlikely.	Category 5: No action required at this time.
Tissue chemistry	3B	None Proposed	Biota tissue required to support food web model or for enhanced understanding of bioaccumulative relationships. Species list includes smallmouth bass (30 - 40 composites), black crappie (12 - 18 composites), clams (10 composites) and sculpin (17 composites).	Category 3: EPA has provided direction. Current estimate is 9 clam, 8 crayfish, 16 sculpin, 18 bass and 9 carp composite tissue samples. LWG should proceed with Biota Tissue FSP development.
Feasibility Study				
Treatability Studies	3B	TBD based on results of treatment technologies literature review	TBD	<i>Category 1: Further discussion required once technology screening is complete.</i>
Debris Identification	3B	Side scan sonar on each AOPC	TBD	Category 2: LWG will specify in FSP.
TPH/PAH Evaluation for Source ID	3B	TBD	TBD	Category 2: LWG will prepare TM and FSP that outlines specific approach.
Upstream Tissue Chemistry	NA	None proposed	Upstream biota not required at this time.	Category 5: No action required at this time.
Site Wide AOPC				
Sediment chemistry	3B	None proposed	Additional sediment data to ensure adequate site coverage may be required.	Category 2: Approximately 26 sediment samples (12 RM 10 - 11.5 and 14 RM 3 - 6) are required. May overlap with sediment cores. EPA will provide comments on Surface and Core Sediment FSP.
Tissue chemistry	3B	None proposed	Additional tissue chemistry likely required to support food web model or for enhanced understanding of bioaccumulative relationships.	Category 3: EPA has provided direction. Current estimate is 9 clam, 8 crayfish, 16 sculpin, 18 bass and 9 carp composite tissue samples. LWG should proceed with Biota Tissue FSP development.
Surface Water	NA	None proposed	Additional data collection unlikely.	Category 5: No action required at this time.
Transition Zone Water	3B	None proposed	Additional data collection unlikely.	Category 5: No action required at this time.

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AOPC Specific Data Needs				
Surface Sediment Chemistry	3B	49 surface grabs and 30 sediment cores (0 - 6" interval)	136 additional surface sediment samples required to ensure adequate spatial coverage.	Category 3: EPA has provided direction. EPA will provide comments on Surface and Core Sediment FSP.
Subsurface Sediment Chemistry	3B	30 sediment cores	Additional subsurface sediment likely to determine vertical extent of contamination.	Category 2: EPA proposed 63 cores in February 17, 2006 SOW. May overlap with site-wide AOPC sediments. EPA will provide comments on Surface and Core Sediment FSP.
Transition Zone Water	3B	None proposed	Additional TZW required at Willbridge, PEO, Rhone Poulenc and Gunderson.	Category 2: No TZW required at Willbridge. Need for TZW at PEO, Rhone Poulenc and Gunderson to be determined based on additional data review. LWG or upland party(s) should proceed with FSP development as appropriate.
Groundwater Seeps	NA	None proposed	None - upland data gap.	Category 5: No action required at this time.
Surface Sediment Toxicity	3B	12 bioassays proposed.	44 additional bioassays recommended to support ERA.	Category 3: EPA has provided direction. EPA will provide comments on Sediment and Benthic Toxicity FSP.

Notes:

Category 1: Further discussion is required to finalize scope of Round 3B data gaps.

Category 2: General scope of effort provided by EPA or will be developed by LWG through Technical Memos and FSPs.

Category 3: Scope of effort generally agreed upon or EPA has provided direction.

Category 4: Ongoing effort; not considered part of Round 3B.

Category 5: Additional data collection not necessary unless new information becomes available.